UNITED STATES DEPARTMENT OF COMMERCE
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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER NUMBER
	10

DATE MAILED:

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 6/20/85 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449
4. ☐ Notice of informal Patent Application, Form PTO-152
5. ☐ Information on How to Effect Drawing Changes, PTO-1474
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 41 - 88 are pending in the application.
   Of the above, claims 83 - 85 are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☒ Claims 41 ~~are~~ is allowed.
4. ☒ Claims 42-52, 54, 56, 58, 60-61, 63-82 and 86-88 are rejected.
5. ☒ Claims 53, 55, 57, 59 and 62 are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

Newly submitted claims 83-85 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 83-84 are directed to a conjugate which includes the oligosaccharides herein claimed covalently linked to a soluble or insoluble support which is separately classified and the oligasaccharides have uses other than in combination with the said supports. Claim 85 is directed to a method of detection and diagnosis which is separately classified and the oligosaccharides have uses other than in diagnosis as for example in treating thrombosis.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 83-85 stand withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP 821.03.

Claims 42-52, 54, 56, 58, 60-61, 63-82 and 86-88 are rejected under 35 U.S.C. 112, Second paragraph. The

claims are functional, indefinite or alternative in the use of the following terms: "a group which reacts with an OH group", "groups being selected to permit the substitution ----at the various positions without altering----., "removing a blocking group", there are no positions of attachment in claim 49; the terminology employed in claim 50 is not understood; "reactive radical", "ultimately replaceable by", "a precursor", "substituted"; claim 60 is indefinite and no antecedent basis is seen for the terminology used; there is no basis for claim 63 in the claims to which it refers; there is no basis for claim 68 in the claims on which it depends; claim 87 refers to the process of claim 82, while claim 82 is directed to a pharmaceutical composition. Claim 88 is functional and alternative in "reacting the OH group to form an O-sulfate ester or O-phosphate ester.

Applicant's arguments filed June 20, 1985 have been fully considered but they are not deemed to be persuasive. The claims are still deemed to fail to particularly point out and distinctly claim the invention for the reasons stated above.

Claims 42-48, 51-52, 54, 56, 58, 61 and 86-88 are rejected under 35 U.S.C. 112, first paragraph, as the disclosure is enabling only for claims limited in accordance with the spe-

citic embodiments. See MPEP 706.03(n) and 706.03(z). Support is not seen for the terms "acyl", "alkyl", "aryl", and "aracyl". Claims 42 and 88 are too broad in not setting forth the operable reaction conditions.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 42-48, 86 and 87 are rejected under 35 U.S.C. 103 as being unpatentable over each of the patents to Szarek et al, Nair et al, the PCT French Patent or the Kochetkov et al reference. Each of the references discloses the conventional reaction between two sugar reactants in order to obtain a di, tri or oligosaccharide in conventional manner. Note that each of the references shows protecting and deprotecting the positions not involved in the reaction, if desired. The

substitution of the instant starting materials, that are well known reactants, in the prior art processes to form di, tri, oligo etc. saccharides is deemed obvious to any person of ordinary skill in the art having the above references before him.

Applicant's arguments filed June 20, 1985 have been fully considered but they are not deemed to be persuasive. With regard to the argument that the references do not show that the reaction is carried out at 100°C, it should be noted that only one of applicant's claims has this limitation and nothing unobvious has been shown to result from the use of the higher temperature.

Claim 88 is rejected under 35 U.S.C. 103 as being unpatentable over each of the Szarek et al, Nair et al, PCT French Patent and Kocketkov et al references for the reasons stated above in combination with the Tovey et al and Curtin et al. The first group of references have bee fully explained supra. Tovey et al disclose forming the sulfate esters of saccharides and Curtin et al disclose the well known phosphorylation of saccharides. To combine the teachings of each of Tovey et al or Curtin et al with the disclosure of the first group of patents showing glycosylation is deemed obvious to any person of ordinary skill in the art having the above references before him.

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9-4-85

Johnnie R. Brown
JOHNNIE R. BROWN
PRIMARY EXAMINER
ART UNIT 123